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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/711,593

09/28/2004

Mark D. Fairchild

P04-01

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01/25/2008

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EXAMINER

LEE, BENJAMIN P

ART UNIT

PAPER NUMBER

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/711,593	Applicant(s) FAIRCHILD, MARK D.	
	Examiner BENJAMIN P. LEE	Art Unit 3641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 18-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 6-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant has amended claim 1.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/26/2007 has been entered.

Response to Arguments

3. Examiner appreciates Applicant's efforts to disprove the prior art and Applicant's arguments with respect to claims 1-17 have been considered. However, the arguments are moot in view of the new ground(s) of rejection. Applicant is respectfully reminded that the prior art need not specifically present the method steps of Applicant's claims if the method steps are inherently accomplished or performed in the prior art disclosure.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by DE PORT et al. (U.S. Patent 1947461).

5. In regards to claim 1, DE PORT et al disclose a method of controlling an aircraft in a turn without the use of rudder control by producing induced yaw, comprising creating a net induced drag differential between an inboard wing to the turn and an outboard wing to the turn, the net induced drag differential is created in such a manner that the net induced drag differential overcomes adverse yaw produced by the outboard wing (page 1, lines 54-72 and page 2, lines 97-104 and 135-140). Note that DE PORT et al teach raising or lowering the “ailerons” (equivalent to Applicant's winglets) to increase or decrease the aspect ration. Note that DE PORT et al teach turning an aircraft without the use of a rudder by increasing or decreasing the effective aspect ratio on one side of the wing by raising or lowering respectively the aileron attached to that side.

6. In regards to claim 2, DE PORT et al disclose that the net induced drag differential is produced by controlling the aircraft such that the induced drag experienced by the inboard wing is greater than the induced drag experienced by the outboard wing. Note that DE PORT et al teach manipulating the induced drag (expressed in equation on page 1) on an aircraft wing to compensate for the inherent induced drag developed due to lift when rolling an aircraft in a turn.

7. In regards to claim 3, DE PORT et al teach increasing the effective aspect ratio of the outboard wing to reduce downwash coming off the outboard wing and reduce the induced drag experienced by the outboard wing and decreasing the effective aspect ratio of the inboard wing to increase downwash coming off the inboard wing and increase the induced drag experienced by the inboard wing. Note that DE PORT et al teach lowering the "aileron" (reducing aspect ratio) on wing to the turn and moving "aileron" to neutral position (increasing aspect ratio) on wing away from turn (page 1, lines 73-80 and page 2, lines 84-104).

8. In regards to claim 4, DE PORT et al disclose spoiling a tip vortex on the outboard wing to reduce downwash coming off the outboard wing and reduce the induced drag experienced by the outboard wing; and increasing a tip vortex on the inboard wing to increase downwash coming off the inboard wing and increase the induced drag experienced by the inboard wing. Note that since DE PORT et al teach increasing or decreasing the aspect ratio on one side of a wing (page 1, lines 54-72 and page 2, lines 97-104 and 135-140),

9. In regards to claim 5, DE PORT et al teach spoiling a tip vortex on the outboard wing to reduce downwash coming off the outboard wing and reduce the induced drag experienced by the outboard wing and increasing a tip vortex on the inboard wing to increase downwash coming off the inboard wing and increase the induced drag experienced by the inboard wing. Note that DE PORT et al teach lowering the "aileron"

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(reducing aspect ratio) on wing to the turn and moving "aileron" to neutral position (increasing aspect ratio) on wing away from turn (page 1, lines 73-80 and page 2, lines 84-104).

Allowable Subject Matter

10. Claims 6-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: In regards to claim 6, the closest prior art fails to disclose, in combination with all the limitations of the base claim(1) and all intervening claims, that the winglets are coplanar or form a variable planform.

Summary/Conclusion

11. Claims 1-5 are rejected. Claims 6-17 are objected to.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin P. Lee whose telephone number is 571-272-8968. The examiner can normally be reached between the hours of 8:30am and 5:00pm on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 571-272-6873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/B. P. L./

Examiner, Art Unit 3641

/John Woodrow Eldred/

Primary Examiner, Art Unit 3641